

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	§	Attorney Docket No.: Muller-6
	§	
Andrea Brasch; Klaus Diblitz; Arnold Meyer	§	
	§	Parent Serial No.: 09/269,989
Serial No.: To Be Assigned	§	
	§	
Filing Date: Herewith	§	Parent Filed: May 1, 2000
	§	
For: <i>Process for the Manufacture</i>	§	
<i>of Dispersible Alumino-Silicates</i>	§	Anticipated Art Unit No.: 1754

PRELIMINARY AMENDMENT

Box Patent Application
Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Kindly amend the above-identified application as follows:

In the Specification

On page 1, after the title and before the heading "BACKGROUND OF THE INVENTION," please insert the following new heading and paragraph:

CROSS-REFERENCE TO RELATED APPLICATIONS

This application is a continuation of U.S. Application Serial No. 09/269,989, filed on May 2, 2000.

In the Claims

Cancel Claims 37-52.

Add the following new Claims 53-72.

NEWLY ADDED CLAIMS

53. (New) A process for the manufacture of alumino-silicates which are dispersible in aqueous and/or aqueous-acidic media, characterised in that

- (A) at least one hydrolyzable aluminium compound and
- (B) at least one hydrolyzable organosilicon compound
- (a) are hydrolyzed jointly or separately from each other in space or time at from 50 to 98°C,
- (b) during or after the hydrolysis the reaction products are jointly subjected to hydrothermal ageing in an aqueous or aqueous-acidic environment at temperatures of from 80 to 220°C for a period of greater than 0.5 hour, and
- (c) wherein the aluminium compound/organosilicon compound ratio used is from 99.5 wt. %:0.5 wt. % to 50 wt. %:50 wt. %, each referring to Al_2O_3 : SiO_2 .

54. (New) A process according to claim 53, characterised in that the hydrolyzable compounds of claim 53 are compounds of the type $\text{M}(\text{O}-\text{R}-\text{A}-\text{R}^1)_{z-n} (\text{O}-\text{R}'')_n$, wherein independent from each other

- M is an aluminium or silicon,
- R'' is a hydrocarbon residue having 1 to 30 carbon atoms,
- R' is a hydrocarbon residue having 1 to 10 carbon atoms,
- R is a bivalent hydrocarbon residue having 1 to 10 carbon atoms, and
- A represents a heteroatom of the main group 6 (oxygen group) or the main group 5 (nitrogen group) of the periodic system wherein, if A represents an element of the main group 5, A bears hydrogen or a C_1 to C_{10} alkyl residue or a C_6 to C_{10} aryl-alkyl aryl residue as additional substituents for the saturation of its valences, and
- n is an index for the numbers 0, 1, 2, or 3 if M is aluminium, or is an index for the numbers 0, 1, 2, 3, or 4 if M is silicon, and
- z is an index for the number 3 if M is aluminium, or is an index for the number 4 if M is silicon.

55. (New) A process according to claim 54, characterized in that n is equal to 0.
56. (New) A process according to claim 54, characterised in that n is equal to 3 if M is aluminium and/or n is equal to 4, if M is silicon.
57. (New) a process according to any one of claims 53, 54, or 56, characterised in that silicon alcoholates having C_1 to C_8 hydrocarbon residues are used as hydrolyzable silicon compounds.
58. (New) A process according to any one of claims 53, 54, or 56, characterised in that prior to addition of the hydrolyzable aluminium compound, the hydrolyzable silicon compound is prehydrolyzed with water or dilute acid using 0.5 to 3 moles of water per mole of silicon, namely, less than the stiochiometric amount.
59. (New) A process according to any one of claims 53, 54, or 56, characterized in that aluminium alcoholates having C_2 to C_{12} hydrocarbon residues are used as hydrolyzable aluminium compounds.
60. (New) A process according to any one of Claims 53, 54, or 56, characterised in that the hydrolysis is performed at 50 to 98°C.
61. (New) A process according to any one of claims 53, 54, or 56, characterised in that the hydrothermal ageing is conducted for a period of 0.5 hour to 24 hours.
62. (New) A process according to any one of claims 53, 54, or 56, characterised in that the acid is added after the hydrolysis and prior to hydrothermal treatment.
63. (New) A process according to any one of claims 53, 54, or 56, characterised in that the acid which is present during or after the hydrolysis is a monovalent organic C_1 to C_6 acid or a monovalent mineral acid.

64. (New) A process according to any one of claims 53, 54, or 56, characterised in that the hydrolyzable metal compounds are purified prior to use by distillation, filtration, or centrifugation and/or are liberated from metal ions by ion exchange.

65. (New) A process according to any one of claims 53, 54, or 56, characterised in that the reaction product of the invention is calcined at temperatures of from 550°C and 1500°C for a period of 0.5 hour to 24 hours.

66. (New) Alumino-silicates dispersible in aqueous or aqueous/alcoholic media, optionally in the presence of acid, characterised in that the alumino-silicate is manufactured according to any one of the processes defined in claims 53, 54, or 56, and prior to dispersion in the aqueous or aqueous/alcoholic medium is present in a dried, essentially anhydrous state.

67. (New) A process according to claim 59 wherein the aluminum alcoholates have from C₄ to C₈ hydrocarbon residues.

68. (New) A process according to claim 59 wherein the aluminium alcoholates have saturated C₆ to C₈ hydrocarbon residues.

69. (New) A process according to claim 60 wherein the hydrolysis is performed at a temperature of from 85 to 90°C.

70. (New) A process according to claim 61 wherein the hydrothermal aging is conducted for a period of from 1 to 20 hours.

71. (New) A process according to claim 57 wherein the silicon alcoholates have C₂ to C₄ hydrocarbon residues.

72. (New) A process according to claim 57 wherein the hydrocarbon residues are saturated.

Respectfully submitted,



C. James Bushman
Reg. No. 24,810

Date: 1/22/02

Browning Bushman P.C.

5718 Westheimer, Suite 1800

Houston, Texas 77057-5771

Tel.: (713) 266-5593

Fax: (713) 266-5169

CERTIFICATE OF EXPRESS MAILING

I, C. James Bushman, hereby certify that this correspondence and all referenced enclosures are being deposited by me with the United States Postal Service as Express Mail with Receipt No. EL715550105US in an envelope addressed to Box Patent Application, Assistant Commissioner for Patents, Washington, DC 20231, on January 21, 2002.

By: 

2002 JAN 22 09 34 50